

Claims

1. A method for processing a seismic 3-D measurement data set consisting of a multitude of traces each being formed by a sequence of data points provided with amplitude values or acoustic impedances, in which based on a

- reference section conforming to a predetermined location and depth and comprising neighboring trace portions of several seismic traces,
- the similarity between the reference section and local sections of seismic data from the measurement data set is determined and
- a volume of data corresponding with the measurement data set with the determined similarity values assigned to each data point is created as the attribute.

2. The method according to claim 1, characterized in that the size of the reference section and the local sections comprises 3 to 7 data points per dimensional direction.

3. The method according to claim 1 or 2, characterized in that the local sections and/or the reference section are deformed according to a local preferred dip and preferred dip direction.

4. The method according to claim 3, characterized in that before the determination of the similarity between the reference section and local sections by an iterative determination of the similarity of neighboring trace portions that are shifted with respect to each other according to dip and dip direction, that specific dip and dip direction for the reference section and each local section is searched for, which results in the largest similarity of the trace portions from the reference section and each local section.

5. The method according to claim 3, characterized in that during the selection of the reference section, a search is carried out for the dip and dip direction exhibiting the largest similarity among the trace portions belonging to the reference section, whereby afterwards in the determination of the similarity between the reference section and local sections, the specific relative dip between the reference section and the local section conforming to the largest similarity is then determined in each case.

6. The method according to claims 3, 4 or 5, characterized in that in addition to the data volume with the similarity values, a data volume with the determined dip values and a further data volume with the determined values of the dip direction are formed.

7. The method according to any one of the preceding claims, characterized in that the reference section is supplied by a well with ascertained lithological information.

8. The method according to claim 7, characterized in that the reference section is generated synthetically by convolving down a pre-selected 3-dimensional acoustic impedance distribution from the relevant well log with a representative wavelet.

9. The method according to claim 7, characterized in that the reference section is formed synthetically with the help of seismic 3-D modeling techniques from a geological model determined by lithological, petrophysical and/or structural parameters.

10. The method according to any one of the preceding claims, characterized in that several reference sections, for example locations of drilled holes, are compared with the local sections, and thus several similarity values are calculated for each data point.